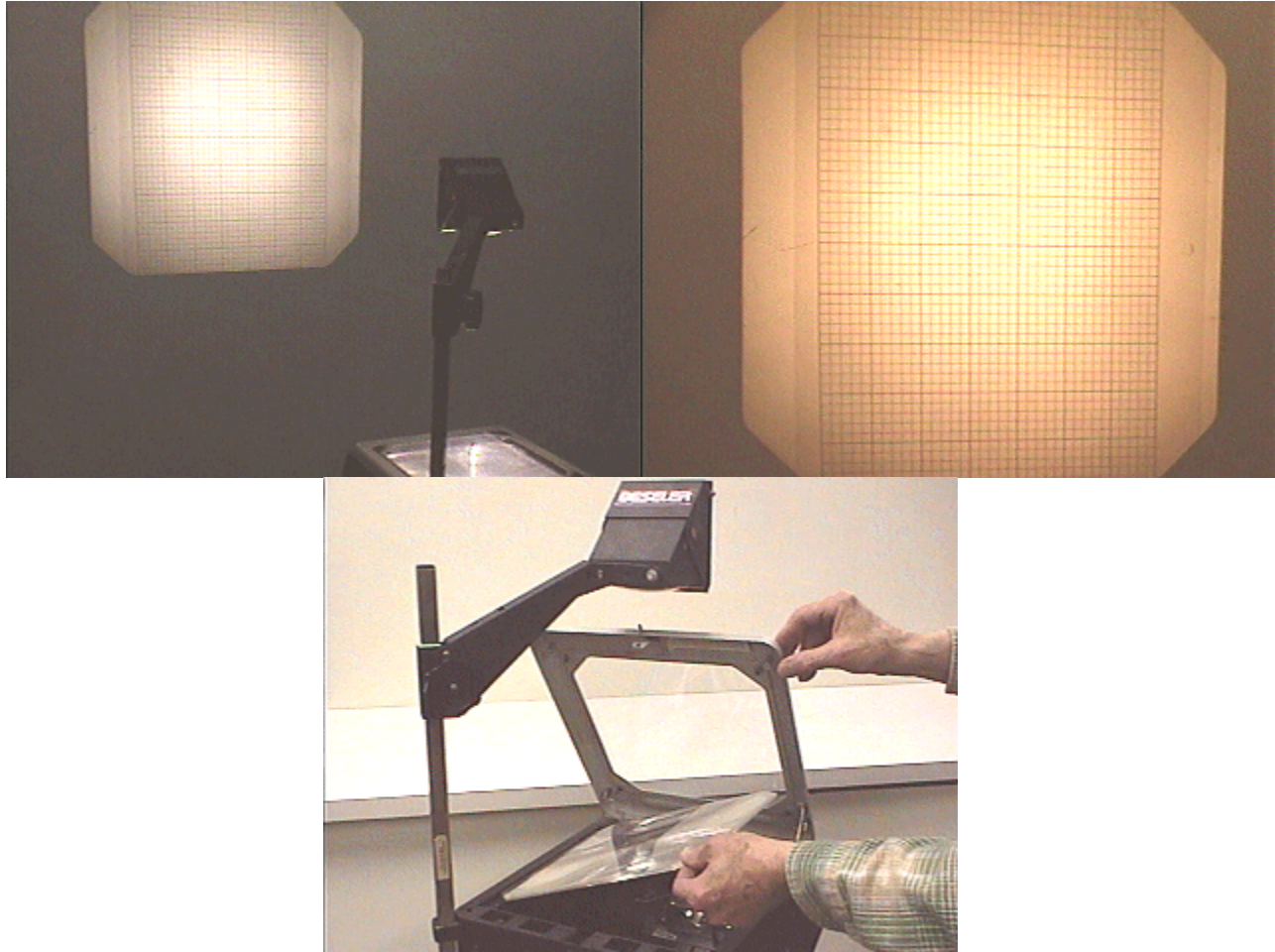


Question #169

An overhead projector like the one pictured at the left and center below, has an interesting optical system. It includes a Fresnel lens, known as the "field lens," that is positioned just underneath the platform, as seen in the photograph at the right below.



The real question is why a field lens is put into the system in the first place. Does it serve to make the projector brighter? Does it tend to make the image more uniform? If so, then how? Some people might believe that the *field lens* is an archaic optical element that is still included but no longer needed. For this *Question of the Week*, can you predict what will happen if the field lens were to be removed?

If the field lens were *removed*, the image would become:

- (a) dimmer around the edges.
- (b) dimmer near the center.
- (c) dimmer all over except around the edges.
- (d) dimmer all over except near the center.
- (e) bright, but blurry all over.
- (f) no significant change.

Click here for [Answer #169](#) after January 5, 2004.

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For questions and comments regarding the *Question of the Week* contact [Dr. Richard E. Berg](#) by e-mail or using phone number or regular mail address given on the [Lecture-Demonstration Home Page](#).